67,007-005
R4269

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application:	Benda, et al.
Serial No.:	10/039,094
Filed:	01/02/2002
Group Art Unit:	1731
Examiner:	Hoffmann, John M.
For:	LONG PERIOD FIBER BRAGGG GRATINGS WRITTEN WITH ALTERNATE SIDE IR LASER ILLUMINATION

REPLY TO EXAMINER'S ANSWER

Mail Stop AF
Commissioner For Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This paper is responsive to the Examiner's Answer dated October 15, 2004.

A. The Rejection of Claim 23 Under 35 U.S.C. §112, Second Paragraph, Is Not contested.

This issue is not contested.

B. The Rejection of Claims 1, 3 and 5 Under 35 U.S.C. §102(b) Is Improper.

The Examiner in his Answer readily acknowledges that his selection of a "locality" is arbitrary. [Examiner's Answer, p.5]. In so doing, the Examiner admits that *Byron* does not show this feature. Indeed, *Byron* indicates that beam 11 is focused by a lens into a line extending substantially along the axis of the fiber. [*Byron*, column 1, ll. 55-58]. Hence, *Byron* teaches the directing of a beam on a locality that is not axially

displaced from the other locality as required by claim 1 and its dependents, claims 3 and 5. The Examiner's arbitrary selection of a locality cannot support the rejection of a claim when the reference itself does not support the Examiner's conclusion. The Examiner himself admits in his answer that "...*Byron* doesn't explicitly teach the two localities that are axially displaced." [Examiner's Answer, p.7].

C. **The Rejection of Claims 1, 3, 5 and 23 Under 35 U.S.C. §103 Is Improper.**

The Examiner contends that if one were to repeat the *Byron* process at another location along the length of the fiber that there would be localities axially and circumferentially displaced from one another. [Examiner's Answer, p.7]. The Examiner's motivation for this combination is to "make additional gratings along the fiber so as make as many gratings one desires." [Examiner's Answer, p.7]. The Examiner fails to cite any support for this motivation. There is also no support for any suggestion to repeat this process. Because the Examiner fails to establish any motivation or suggestion for repeating the process of *Byron* on the same fiber, the rejection of claim 1 and its dependents, claims 3, 5 and 23, is improper.

D. **The Rejection of Claim 4 Under 35 U.S.C. §103(a) Over *Byron* In View of *Bernstein* is Improper.**

The Examiner argues for the addition of a protective coating on the *Byron* fiber only to remove the coating as a precursor to writing the grating. However, nothing within the references supports this conclusion. There can be no motivation for the deforming step of *Bernstein* when there is no such protective coating on the *Byron* fiber in the first place. Therefore, the combination lacks motivation.

The Examiner contends that there is no connection between the deforming step and the forming of a grating in claim 4. Applicant disagrees with this conclusion. Claim

4 requires, "the step of deforming the optical fiber about the first locality and the second locality to form the grating on the optical fiber." There is only a single step cited in claim 4. Hence, there is an unequivocal connection between deforming and forming the grating on the optical fiber. For the above reasons, claim 4 is in condition for allowance.

E. The Rejection of Claims 1-3 Under 35 U.S.C. §103(a) as Being Unpatentable Over *Kim* (U.S. 6,501,881) is Improper.

The Examiner contends that it would be obvious to repeat the process of *Kim* along the same fiber to achieve the object of the invention. However, no such step is cited in any reference. Moreover, there is no motivation for this unsupported repetition of the process of *Kim* on the same fiber. For this reason, these claims are in condition for allowance.

F. The Rejection of Claims 1-2 and 6-10 Under 35 U.S.C. §103(a) As Being Unpatentable Over *Prast* (U.S. 5,176,731) And *Nakai* (U.S. 5,996,375) Is Improper.

The Examiner rests his combination on the so-called motivation of selling them and making money. [Examiner's Answer, p.9]. Such a broad motivation would support the combination of any reference. There is, however, no specific motivation or suggestion to combine the references of *Prast* and *Nakai*.

The Examiner further contends that "a fair reading of *Prast* shows that the two laser beams are directed at numerous axial localities." [Examiner's Answer, p.15]. Apparently, the Examiner appears to contend that a single laser beam can shine on multiple localities depending upon how you slice up a locality. However, claim 1 sets forth two localities that are axially displaced from one another. There is no showing within *Prast* of these two separate localities upon which are directed different laser beams.

The Examiner also appears confused with Applicant's argument concerning *Nakai* teaching away from its combination with *Prasi*. The Examiner appears to believe that Applicant's argument relates to a specific embodiment and not the claims at issue. However, the combination simply does not work because *Nakai* requires its light beams to both pass through element 3 to form a grating. These light beams cannot be circumferentially displaced from one another to achieve this end. The proposed modification of *Nakai*, i.e., circumferentially displacing the beams, would both render the prior art invention unsatisfactory for its intended purpose and change its principal of operation. Therefore, claims 1-2 and 6-10 are allowable.

G. The Rejection of Claims 26-30, 1, 4 and 24-25 Under 35 U.S.C. §103(a) As Being Unpatentable Over *Kim* (U.S. 6,430,342) Is Improper.

The Examiner contends that it is irrelevant there is no second laser shown in *Kim* because the basis of the rejection is pursuant to 35 U.S.C. §103, not 35 U.S.C. §102. Applicant understands the difference between a rejection pursuant to §102 and a rejection pursuant to §103. A rejection under 35 U.S.C. §103 still requires the showing of a second laser in some reference. The Examiner's assumption of a second laser beam as well as his assumption of motivation for its combination with *Kim* cannot support a rejection of the claims.

Furthermore, the Examiner contends that it would be obvious to form the deformation on the Figure 2 fiber of *Kim* '342 by application of another laser beam on the other side. The Examiner acknowledges, however, that *Kim* does not show the use of two lasers. [Examiner's Answer, p.11]. Instead, the Examiner presumes that it will be obvious to use a second laser because the fiber is made in the same manner as the fiber of Figure 1, i.e., by using a single laser. This leap of logic is not supported by anything

within *Kim*. Moreover, the Examiner fails to identify his support for this conclusion. Accordingly, independent claim 1 and independent claim 26, both of which require a first laser beam and a second laser beam, are allowable over the cited reference.

The Examiner also fails to provide motivation for combining the second laser beam with the laser of *Kim* '342. For this additional reason, the claims are in condition for allowance.

Respectfully submitted,

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Dated: December 14, 2004

CERTIFICATE OF FACSIMILE

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No. (703) 872-9306) on December 14, 2004.

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Theresa M. Palmateer

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